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What is the Role of Public Feeder Markets in Developing Technology Based Small Firms? An Exploration of the Motivations for Listing on AIM since the GFC.

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Key Words: Technology Based Small Firm (TBSF); Initial Public Offering **(**IPO); Alternative Investment Market (AIM)

Abstract

In the aftermath of the 2007 global financial crisis (GFC) stock markets experienced sharp decline in listings and marked reduction in Initial Public Offerings (IPOs). This paper explores the factors determining UK technology based small firm (TBSF) listings on the UK Alternative Investment Market (AIM) and whether this market has a role to play in their future development.

A case study approach is used to contrast the experiences of five recent AIM listed TBSFs with five TBSFs approaching private equity investment exit that are considering an IPO.

The paper concludes that macro market conditions, rather than managerial resource base or AIM market structural factors were most influential in TBSF pecking order preferences to undertake IPOs. From a resource based management perspective lifelong entrepreneurs were more likely than serial entrepreneurs to favour an IPO exit, as it supported their aims to continue to manage and grow UK-based companies. Additionally, with a more buoyant and sustainable AIM market TBSF investors are more likely to choose IPOs. To conclude, AIM played an important role in listed UK TBSF development. A more buoyant AIM could ease the UK finance escalator's flow, facilitating more rapid UK TBSF growth.

Introduction

In the aftermath of the global financial crisis (GFC) in 2007, resultant slump in investor confidence, and sharp decline in listings on UK stock markets, this paper explores the perceptions and motivations of UK technology based small firms (TBSFs) in considering and undertaking Initial Public Offerings (IPOs) and listing on the UK Alternative Investment Market (AIM), since 2007. In doing so it raises and addresses the important question of whether AIM has a crucial role to play in the future growth and development of UK TBSFs.

The study is based on in depth case studies contrasting five recent listings with five potential IPOs. These are used to test the resource based view (RBV) of the firm (Barney 1991) and consider the extent to which this has influence over the entrepreneur's pecking order preferences (Myers and Majluf 1984) and decisions for private equity exit and listing, within the early stage cycle of the firm (Berger and Udel, 1998). In making this assessment three potentially influential factors are considered: (i) management resource base factors, reflecting changing management pecking order preferences; (ii) macro economic factors relating to the GFC, resultant loss of investor confidence and emerging alternative sources of finance; or (iii) structural problems in the market's operation such as cost, regulatory demands and short-termism.

The importance of ensuring a smooth and sufficient supply of appropriate external finance to UK TBSFs appears to be a crucial issue. NESTA's (2009) '*Vital 6%*' research found that over half of all employment in the UK between 2002-08 was created by just six per cent of businesses. This suggests that a relatively small band of innovative high growth TBSFs could form an important part of this driver in the recovery and growth of the UK economy (NESTA 2010). Recent research (North, Baldock and Ullah 2013) focusing on UK TBSF financing constraints in the post GFC era has seen growing attention given to the perceived growth in the equity finance gap (Rowlands 2009; SQW 2009) and the failings of the UK finance escalator (Mason, Jones and Wells 2010; Gill 2010) mapping the Burger and Udell (1998) life cycle model to the smooth financial transition through the stages of research and

development (R&D) growth. Whilst Fraser, Bhaumik and Wright (2013) mention the generally weak performance of second tier feeder IPO markets in Europe in raising SME growth capital, there has been relatively little attention given to the role of the public equity markets in the UK, particularly in relation to the AIM feeder market and the TBSF user perspective (Mason, Jones and Wells 2010).

The paper proceeds with a review of the key theories underlying the issues explored, before setting out the research methodology, main findings, and using a decision factors matrix approach to draw out key conclusions.

The UK Finance Escalator and Pecking Order Theory

Business growth cycle theory (Burger and Udell 1998), which underpins the UK finance escalator model (NESTA 2009a; BIS 2008), suggests that as businesses grow and gain market traction they become less opaque to potential investors and transition to different types of finance as this becomes more suitable to the businesses and for their investors. Myers and Majluf (1984) present a pecking order theory suggesting that businesses have a preference for internal finance such as founder investment and reinvested surplus over external finance. Furthermore, they suggest that businesses have a preference for external debt over equity finance and dilution of ownership. Subsequent research, such as Atherton's (2009) examination of UK start-up financing, has shown that pecking order is nuanced and may be influenced by previous entrepreneurial experience and path dependency (Teece 2007) where preferences may be influenced or dictated by previous financing decisions, tying pecking order theory into the RBV business management approach explored in this paper.

The decision to list on a feeder market such as AIM is a major undertaking and typically occurs as TBSFs approach the later stages of the cycle, reaching a point where earlier stage private equity investors wish to exit. These businesses typically need to raise funds to buyout their existing investors either via an IPO or trade sale to a larger market competitor. Trade sales are by far the most common exit strategy in both Europe and North America, with only a

small minority, typically less than 20 per cent seeking an IPO (Revest and Sapio 2012; NESTA 2010).

The development of a more effective AIM UK public equity feeder market for substantial TBSF growth finance is likely to be vital to the UK's future economic recovery, providing a timely private equity exit option, freeing up these funds for earlier stage TBSF development, whilst also encouraging larger scale TBSF growth within the UK.

Management influences, resource and knowledge factors

The extent to which entrepreneurs and their firm's management resource base (Storey 1994) dictates its growth and investment strategy, and whether a resource based view (RBV) in relation to TBSF equity finance is more influential in the pecking order selection than economic and structural market conditions, is central to this paper. Barney (1991) highlights the importance of management skills which may combine individual human and organisational management capital to facilitate competitive advantage. These skills may be gained through training, experience and relationships, providing enhanced insights and judgements that can lead to competitive advantage in a range of management areas such as sales and marketing, product and service development, operations management and, crucially, financial management.

Aggerwal and Hsu (2013) point to four key strands of management exit decision literature: first, venture capitalist (VC) negotiation strengths (Hellman 2006; Cumming 2008); second, public market strengths (Bayar and Chemmanur 2012); third, company market position in relation to acquisition (Poulsen and Stegemoller 2008); and fourth, founder characteristics where their retained control is more associated with IPOs than trade sales. From a RBV perspective, the interplay between the relative VC strength, the entrepreneur and other management resources, including the use of external advisors and non executive directors (NEDs), would appear to be a vital and under researched factor.

Recent debate has focused on entrepreneurial differences and business growth motivations, with clear distinctions between innovation driven enterprises (IDE) and other SMEs (Moretti 2012; Aulet and Murray 2013) and between opportunity and necessity driven entrepreneurs (Tellegen 1997). Whilst these present a strong case for IDE entrepreneurs to seek risk equity finance, there is a need for more fine grained understanding of these entrepreneurs (Carsrud and Brannback 2011), notably in relation to their selection and use of public or private equity.

The adoption of non executive directors (NEDS) with specialist skills (Barrow 2001), the previous experience of managers in accessing external finance, and the extent to which external assistance from intermediary equity market advisors, accountants and business support agencies is used to facilitate access to debt and equity finance appear crucial to financial preferences and success rates in obtaining and managing external finance (BIS 2012 and 2013; Filatotchev 2006).

Various recent studies (BIS 2010 and 2012; Mason and Kwok 2010; Gompers et al 2010; North, Baldock and Ullah 2013) have indicated that more experienced managers and those using external assistance are more likely to be successful in accessing external finance, particularly in relation to TBSF's in accessing equity finance. Gompers' (1996) 'grandstanding' theory highlights the preference for VCs to choose IPOs at times which will maximise returns for investors and build their reputations, whilst Hsu (2009) found that longer VC incubation periods prior to IPO lead to better sustainable performance post IPO and Bessler and Seim (2012) demonstrate the importance of post IPO presence of VCs in improving companies' public market long run performance. Private equity VCs and their appointed NEDs are therefore highly likely to influence exit strategies.

Perceptions and motivations for TBSF AIM listings and macro market conditions

In examining the perceptions and motivations of UK TBSFs to list on AIM, post 2007, this raises the question as to whether AIM is perceived as having a viable role in financing the development of UK TBSFs. Whilst some commentators such as Fraser, Bhaumik and Wright

(2013) suggest that public equity feeder markets in Europe have had a minor and declining role in recent years, others such as Bessler and Seim (2012) demonstrate that they have successfully provided access to growth capital in Europe, particularly in the mid 2000s boom period. With the Breedon Review (2012) estimating a UK SME finance gap of between £84bn and £191bn from 2012-16, it may be argued that AIM could have an increasingly important role to play as the UK economy recovers and grows in the next few years. A properly functioning public equity feeder market can provide substantial growth funding to TBSFs, whilst also facilitating early stage private equity exits. This can enable the recycling private equity back into the earlier stages of TBSF development, producing a smoother flow of the UK finance escalator (Mason, Jones and Wells 2010) and the more rapid development of the UK's most innovative and growth oriented young businesses.

A recent survey of government backed VC fund managers (CfEL 2013) supported concerns about breakages in the UK finance escalator. This revealed poor exit conditions resulting in lengthening times to exit, along with increasing difficulties in securing follow-on private equity finance. The result has been locked-in early stage investor funding and sub-optimal drip-feed underfunding for companies. Furthermore, only 3 per cent were likely to choose IPO exits due to their perception of poor investor confidence in the AIM market. Ernst and Young's annual IPO report (2012) recognises the growth of alternative funding, for example through crowd equity, family office and corporate trade investments, whilst Cave (2009) highlights an emerging early stage pharmaceutical investment asset class. However, there is also recognition that a buoyant public feeder market would be highly beneficial to UK TBSF growth.

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North, Baldock and Ullah (2013) demonstrate the importance of risk equity finance to TBSFs, suggesting that whilst less than two per cent of UK SMEs (1) sought equity finance in the period from 2007-10, a considerably higher proportion of TBSFs (23 per cent) had sought equity finance in this period. Whilst this may well be an overestimate, since the study focused on growth oriented TBSFs, a recent GFK (2013) survey of TBSFs in London's Tech City also exhibited high proportional use of equity finance amongst these businesses (27 per cent had

used angel finance and 22 per cent had used VC finance). These potentially fast growth TBSFs are more likely to require equity risk finance because banks are unable or unwilling to offer them debt finance due to their lack of trading record or collateral and the information asymmetries associated with the intangible value of their technical innovations (Stiglitz and Weiss 1981; Hsu 2004). Even fewer businesses access public equity in the form of an IPO (Revest and Sapio 2012), with NESTA (2010) data for US companies finding that between 2000-09 less than one fifth of private equity backed companies had exited early stage investments via IPOs. Whilst IPOs therefore affect few businesses, they are disproportionately far more important for higher growth TBSFs, being used as a private equity exit route and also to raise substantial funding for R&D, business development and strategic acquisitions (BIS 2013).

The UK's main IPO feeder market for TBSFs is AIM (Posner 2004 and 2009). Since establishment in 1995, AIM has proven more robust and successful than other European feeder markets, with IPOs to date raising over £35bn (AIM 2013) and further issue finance raising £45bn towards business growth and development. However, since the 2007 GFC through the period of this paper's research to early 2013 there has been a marked decline in IPOs on AIM (Table 1). This has ostensibly been due to the reduced level of liquidity in the market as equity investment levels declined rapidly in the UK during the GFC and have remained depressed, due to a combination of investor and prospective IPO business caution, underscored by a lack of high profile successful IPOs during the period of this study (Ernst and Young 2012).

Structural problems with AIM

Recent negative trends in UK stock markets are a reflection of the wider impacts of the GFC. The banking crisis of 2007 led to a major loss of investor confidence in stock markets across the globe. In the UK the main London Stock Exchange (LSE) experienced a net decline of 86 (-14 per cent) listed companies from December 2007 to August 2011 (QCA 2011). The AIM feeder market with smaller, younger and potentially more risky investments, experienced a far

greater net decline of over one third (-35.3 per cent) between 2007 and 2012 (Table 1). It is notable that this was more than double the decline that took place in the NASDAQ (-15.6 per cent), the equivalent US feeder market, over a similar period (NASDAQ, September 2013).

AIM experienced investors' 'flight to quality' (Cabellero and Krishnamurthy 2008) and retrenchment to established 'blue chip' stock (Mason, Jones and Wells 2010). These investment approaches are typical of 'credit crunch' periods and operate to the detriment of perceived riskier investments into the young TBSF feeder market (Holmstrom and Tirole, 1997). However, despite the prevailing depressed investment market conditions, the particularly poor performance of the AIM market in this period raised concerns about its operation and value in assisting TBSF growth (Kay 2012; BIS 2013).

The resultant Kay Review (2012) of UK stock markets explored the areas of potential failure in their operations. It highlighted systemic problems of market short-termism and the destructive impact that this can have on the development of R&D intensive businesses. The Kay Review's recommendations particularly focus on the role of market intermediaries (e.g. brokers, analysts and asset managers). The suggestion is that their recent short term investment mindset, which is driven by annual bonus incentives, stimulates market volatility. For example, they may generate inflated investor expectation in the performance of young TBSFs, which are relatively fragile businesses in the market. For these businesses a single report of under performance can quickly deflate investor confidence with potentially catastrophic consequences. These structural issues became particularly acute during the GFC when investor confidence fell (Mason Jones and Wells 2010). The Kay Review (2012) therefore points to the need for a more stable investment market that could benefit both investors and investee companies and lead to greater confidence and use of the markets. Subsequently, BIS (2013) reported that whilst current AIM regulations are perceived as a minor barrier, the costs associated with IPOs are currently considered high in comparison to their potential financial benefits, a view which might change if market conditions improve. A prevailing view in the City (Ernst and Young 2012; New City Network 2013) is to address the key challenge of raising investor confidence in the face of tough macro economic conditions, notably through enhanced tax breaks, including the abolition of stamp duty on AIM share

dealings in 2014 (2). A crucial question here is whether entrepreneur and VC perceptions of structural issues will inhibit IPO activity when macro economic confidence improves in the UK.

Methodology

The research sought insight into the perceptions and motivations for whether or not TBSFs seek an IPO and whether, in the post 2007 GFC period, the AIM feeder market can have an effective role in enabling UK TBSF growth. This required an exploratory approach using qualitative case studies (Eisenhardt 1989) allowing senior managers to provide full explanations for company decisions, revealing the varying influence and importance of investors and NEDs and changing perceptions of the AIM market and alternative finance options over time. An iterative, interpretive approach has been taken to draw out key decision making factors (Yin 2003). This entailed repeat interviewing work with the senior managers in order to gain clarity of observations and enable proposition development (Eisenhardt 1989), notably around the nature of founder senior manager aims and attitudes in contrast with those of investors, and to reveal through a process of content analysis a consolidation of evidence and causal inference (Yin 2003).

Contrast is provided by comparing the decisions and experiences of five AIM listed TBSFs that listed during the GFC period between 2007 and 2012 with five TBSFs that are currently using private equity and approaching the stage when the finance escalator suggests that they will require a late round of funding which could involve an IPO (e.g. for late stage R&D, early commercialisation, or strategic growth acquisition). The aim was to gain insight into potential sensitivities of difference, with regard to the selection of IPOs, between the two contrasting case sets and to explore the reasons for any revealed differences '…developing a theory that accounts for much of the relevant behaviour' (Glaser and Strauss 1967, p.30).

The business cases were initially screened and purposively selected to provide a small, but sufficient number to gain grounded qualitative insightful evidence (Glaser and Strauss, 1967)

from in-depth IPO and potential IPO TBSF case studies. Selection aimed to demonstrate key themes and emerging issues for TBSF IPO stage finance as a whole, whilst also encompassing a range of sectors with varying early stage investment horizons (contrasting IT/digital with life science) and different management structures (involving serial and life entrepreneurs, investors and NEDs). All of the case studies are UK owned and based, R&D intensive, and developing innovative new products. The comparator groups are closely matched (3), with a suitable balance between life sciences, software and digital technology and scientific instrument development between the currently listed and potential listings groups (Table 2). These are the type of UK businesses which should be the embodiment of NESTA's 'Vital 6%', with potential for rapid growth and employment generation, if they remain in the UK. They are representative of what Ullah, North and Baldock (2011) define as independently owned small and medium sized enterprises (SMEs) with under 250 employees that embrace innovative technologies in the high technology sectors defined by Bullock and Millner (2003) (4). North, Baldock and Ullah (2013) indicate that innovative R&D intensive TBSFs represent just 6 per cent of the UK business population (circa 120,000 businesses) (5). Whilst the selected businesses are only a small sample of these highly innovative businesses and cannot be considered in any way to be representative of this sector, those selected are:

(i) Five recent TBSF IPOs on AIM that are currently listed. In context, there have been 310 UK company AIM admissions between 2007 and the end of 2012 of which around one quarter (75) have been TBSFs and not all of these post 2007 TBSF listings have remained listed or survived in this period. The sample's survival bias is noted and reflects the objective of the research in providing contemporary matching viewpoints of current and prospective AIM companies. Some contextual balance is provided by reference to an AIM delisting case from the BIS (2013) study.

(ii) Five potential IPOs sampled from TBSFs successfully obtaining a mix of private equity finance, including business angel and government backed equity. These businesses were sourced from previous studies examining recent UK TBSF

access to finance (6) and referrals through TBSF science park networks (BIS 2010 and 2012) in order to provide relevant contemporary TBSF cases to interview in February 2013. In context, given that on an annual basis AIM listings typically represent less than one in five private equity exits, they are part of circa 130 UK TBSFs that were considering exits at the time of the study (7).

In-depth interviews were undertaken with senior managers of the TBSFs (8). Since these are relatively young businesses (median five years established) a majority of respondents (8/10) were founders, or had been involved in the business from an early stage. A topic guide approach was taken, covering issues relating to: the business profile (including sector and degree of innovative activity, establishment/trading age and confirmation of position within the growth finance cycle), ownership structure, size by employment and sales turnover; performance (employment, sales turnover and asset value), growth aspirations and projections; access to finance issues and requirements; reasons for undertaking a UK AIM listing; board structures and the roles of NEDs, experience or perceptions of undertaking and managing a listing; suggestions for changes to improve the operation of the AIM market. The interviews were mainly carried out face to face at the business premises (three in each category) with the remainder undertaken by extended telephone interview (enabling greater regional coverage) and also included follow up telephone interviews in Spring 2013. Interviews were fully transcribed and supplemented by email exchanges and company website and reporting documentary research evidence for further detail and accuracy.

(Insert Table 2)

Characteristics of TBSF cases

A range of digital and life science TBSFs are included in both the AIM listed and potential IPO groups (Table 2), with the listed companies exhibiting a slightly older trading age profile,

typically conforming to the finance escalator model (Gill 2010). A notable exception is a listed gene therapy business which, after 18 years, is nearing the introduction of its products to the market and exemplifies the long lead times required for life science R&D (Rowlands 2009; SQW 2009). All are highly, mostly globally, innovative businesses and largely export driven, particularly to advanced markets in North America and Europe, but also to emerging markets in India, China and South Africa. The minority of surveyed businesses trading predominantly in the UK are operating in the niche green energy and transport infrastructure market sectors.

It is notable that the management structures (Table 2) of the listed and potential listing companies are quite similar, with the private equity companies already having sizeable boards containing between six and 12 senior managers and between two and six NEDs. Indeed, some of the private equity companies have larger boards and greater NED presence than their listed counterparts (which contained between four and six board members and between two and three NEDs). The larger boards in the private equity companies reflected their numbers of private investors. For example, the life science company with the largest board and NED presence had undertaken multiple rounds of fundraising involving several private and government backed VCs and high net worth individual investors. These companies therefore exhibited well established financial and corporate governance practices, instilled by their investors, and appeared well prepared for IPOs in this respect.

The surveyed senior managers exhibited different attitudes and visions relating to their roles and aims for the companies and these emergent attitudes are captured in the developing classification of CEOs presented in Table 2. This builds on IDE entrepreneur characteristics (Moretti 2012; Aulet and Murray 2013) in establishing a more nuanced approach suggested by Carsrud and Brannback (2011). These have been characterised as: (i) serial entrepreneurs who are primarily interested in developing the business to a stage where they will then be content to sell-out and start on a new business venture (one listed case and two potential IPO cases); (ii) lifelong entrepreneurs who expressed a strong vision for the longer term development of the company and a desire to remain in the management of the company over a longer term period (two listed cases and one potential IPO case); (iii) possible lifelong

entrepreneurs who showed a desire to remain in the management of the business in the longer term, but who were pragmatic in their recognition that their investors might prefer to exit via a trade sale which might lead to them having to leave the company (two potential IPO cases). Additionally, two listed cases have undergone management changes where the original CEO is no longer with the company.

The aspirational quotation presented below, from the CEO of a prospective life science company IPO, presents the strongest example of a lifelong entrepreneur in this study:

> *I have been very inspired by other local Cambridge businesses that have grown and remained independent UK owned businesses like Oval Medical and Bluegnome. ABCAM is an example of a Cambridge biotech that has successfully gone all the way through the process [IPO] and has been successfully listed for several years, acquiring three companies in the last year. This is the type of growth model that I would like to be associated with in the longer term.*

(Insert Table 3)

An important difference between the AIM listed and potential IPO cases is that, whilst all of the trading businesses are growth orientated and have experienced sales turnover growth, employment and total asset value growth in recent years (Table 3), some of the listed businesses have reached a growth plateau, whilst the private equity backed companies are forecasting rapid growth during the next couple of years. The listed businesses in plateau referred to seeking '*organic growth'* and a period of relative stability after recent growth phases from new product marketing. They largely conform to Aggerwal and Hsu's (2013) finding that post IPO businesses are less innovative (in terms of patent counts) than their private equity counterparts. However, this may be seen as part of the innovation cycle. For example, a digital imaging company planned re-investing existing surplus into further R&D, but with the possibility that a strategic acquisition could spark further growth:

> *We have been going through a recent phase of operations and R&D investment, but see future growth potential through further strategic acquisitions to the four undertaken in recent years.*

These will complement our technological developments and strengthen our position in the market.

The major exception amongst the surveyed listed companies is the microchip scientific instrument company which is on the cusp of a major marketing breakthrough, where the development of original equipment manufacturer (OEM) licensing agreements with key complementary IT suppliers globally could lead to huge sales growth opportunities.

Whilst the exceedingly positive forecasts of the private equity backed potential IPOs for doubling their sales turnover and appreciably increasing employment (by between 15 and 50 staff in each case) during the next couple of years are likely to be over optimistic (BIS 2012 and 2013), Table 3 demonstrates that most of these businesses have exhibited a doubling in sales turnover during the previous couple of years (median increase of £6.6m) and exhibit impressive track records of growth in employment (median increase of 5 staff) and assets (median increase of £2m).

A crucial factor in the growth models of these businesses is the combination of decision factors which determine management preferences for IPOs, trade sales or other options at the time when TBSFs move from early stage to later, growth stage finance when private equity exit might be anticipated (Aggerwal and Hsu 2013). In this paper the focus is on whether management factors (the management RBV) have primacy over macro economic or structural public market factors in the decisions that are made.

Motivations and Factors determining AIM Listings

The decision to undertake an IPO may be heavily influenced by managerial factors such as founder entrepreneurs' growth aims (Moretti 2012), the management team's resource base (Amini, Keasey and Hudson 2012; BIS 2013) relating to knowledge, previous experiences

and preferences in using private and public equity and that of their private equity backers, non executive directors and external advisors (Hellman 2006; Cumming 2008). From the perspective of macro economic conditions the breakages in the finance escalator (North, Baldock and Ullah 2013) would be expected to lead on the one hand to a lengthening of time to IPO exit (NESTA 2010) and on the other hand examples of earlier stage IPOs, substituting public equity for a lack of available private equity. Structural factors affecting the AIM feeder market such as illiquidity, costs of initial flotation and maintaining a listing, and short-term volatility, are also potential determinants. The remainder of the paper investigates these three key decision factors, contrasting five recent IPOs with five potential IPOs.

AIM companies

The five post 2007 listed business cases demonstrate the value of AIM to viable growth oriented TBSFs, even in a depressed market. AIM was their preferred IPO market primarily because they are UK owned and based, but also because their managers and NEDs knew the market. In several cases these managers had previous experience of undertaking an AIM IPO with another business and understood its value to TBSF development (Gompers et al., 2010). Their choice of AIM mainly related to reputation, reliability, cost and previous knowledge, as summarised by one of the surveyed senior managers:

> *From my own previous experience, and that of one of our non execs, we know exactly what we are getting with AIM. The market has a good reputation and this reflects well on its businesses. The costs and requirements are clear, it is light touch and relatively inexpensive*.

AIM was also the most suitable early stage public feeder market. The one company that had considered an overseas IPO market, the US NASDAQ, recognised:

> *We were too small, with a market cap of under £10m, to be of any consequence and to get noticed. Even if we were a larger cap, success in the US market would require far greater presence in the US than we were prepared to undertake.*

As expected from the finance escalator model (Berger and Udell, 1998) raising funding for R&D (3 cases) and strategic acquisitions (2 cases) were the most frequently mentioned reasons, with TBSFs entering AIM to raise funding for relatively costly later stage R&D and market development. Strategic acquisitions of complementary R&D companies assisted in more rapid and effective development of innovative niche market activities and new applications of technology platforms which could facilitate entry into new markets:

> *Our company has adopted a strategy centred on strengthening its scientific imaging technology portfolio. This has required actively pursuing a growth strategy designed to acquire other small high-technology companies in the scientific digital imaging market*.

Surprisingly, only one business raised AIM finance for private equity exit, as predicted in the finance escalator (Mason, Jones and Wells 2010). Rather, several recent listings sought substantial funding at an earlier development cycle stage than the model predicts, because no other source of suitable external finance (debt or private equity) was available. For these companies, as one CEO of a digitech company recounted, this was a high risk strategy that had paid off, leading to rapid expansion:

> *We raised approximately £15m through our recent IPO. Prior to listing we had no money. No private equity or bank debt finance. The banks had refused to lend money because we are a software developer and could not provide the bank with assets if the company had failed and gone bust.*

The life science company that had listed, just prior to the financial crisis, had done so quite speculatively during early to mid-stage R&D and far from reaching trading status. They aimed to raise the company's profile and improve their chances of raising further funding through strategic collaboration with large pharmaceutical businesses ('pharmas'). The respondent drew comparisons between early stage life science and exploratory mining and oil companies that list on AIM, highlighting that this is a high risk investment with a potentially high return. They stressed that the investment time horizon for life science businesses is lengthy (the company's most advanced R&D had taken over ten years and was not yet at the market

stage) and the importance of being able to maintain R&D momentum through ongoing additional funding, mentioning that the company had raised a further £10m from AIM since floating, as well as developing two key pharma collaborations:

The AIM listing sought to raise the profile of our company with a view to raising money for R&D and netted £10m. The reason AIM was chosen was that it is a 'wild west' market, which offers the potential for raising money for uncertain businesses, like ours, which have not yet reached trading status.

Only one company had floated on AIM to raise funds to buyout an existing investor. They also required later stage R&D funding and mentioned that the timing of the IPO was not ideal. A combination of investor pressured and lack of private equity had led to an earlier float than would have occurred, had more private equity been available:

After a phase of concentrated R&D, the company floated on AIM. In hindsight this was too early as we did not raise the clear £6m that was required. The company was well received by the market, but it was not the best time to get a good market valuation. After various expenses and paying out a previous investor the float netted about £4m. This has not been enough to move as rapidly forward with R&D as we would have preferred.

The one surveyed company that listed on AIM primarily to raise their profile, and not initially to raise funds, subsequently made a number of successful strategic acquisitions. Until recently raising £850,000, they had not required additional finance from AIM. Their status as a listed company was deemed beneficial for mergers and acquisitions (M&As) and the potential for raising finance from AIM for a large strategic acquisition in the future was perceived as an important option:

The company sought admission to AIM in order to provide greater flexibility in funding further growth by enabling access to a wider range of investors. Our AIM listing has

raised our company status within the industry and helped us recruit, retain and incentivise key employees. It has also considerably improved our status with customers and suppliers. *Crucially for us, we have found that our listing status lends greater credibility to our acquisition activity, along with an increased ability to raise funds if required.*

Overall, the recent AIM listed TBSFs mainly sought and raised the levels of IPO development finance they required (ranging from £6-15m) and despite acknowledging that market conditions were tough, had reasonable expectations of raising further funds, mainly for acquisitions, in the near future (Table 2). They demonstrate that, whilst macro conditions and flotation timing were factors, the more decisive reasons related to the public market offering the best or only opportunity to raise sufficient growth capital, and managerial willingness to use and trust the structure of AIM. They typically exhibited knowledge, previous experience and preference for the AIM market, but include some earlier stage entries into public equity than the finance escalator predicts, due to lack of alternative and sufficient availability of risk finance. Two listed TBSFs had CEO founder '*lifelong*' managers (Table 2), committed to their continuing management vision of growing UK owned and based businesses, where an IPO was deemed more suitable to achieve this than a trade sale. It is also notable that these businesses had not been dominated by private equity VCs and their appointed NEDs advising against IPOs.

The potential IPOs

The five potential IPOs are high growth TBSFs successfully backed by various forms of private equity including high net worth (HNW) individuals, business angel network syndicates, and private and corporate VC. Following the more conventional path of the finance escalator they have reached a stage where their main R&D activity is nearing completion and early market development is taking place. For many of their early stage investors the time is arriving, after between three to seven years investment, when they are seeking a return on their investment. At this stage these businesses are typically considering IPO or trade sale

options (Revest and Sapio, 2012). As UK owned and based businesses, most would consider the UK AIM market as their '*first and natural choice'* for an IPO. The exception was a business with predominantly US investors and markets which would consider NASDAQ, but would need to relocate to the US to effectively manage this. For UK TBSFs a key advantage of the UK AIM market, over other European and US stock markets, is that it is well known and understood by their directors. In most cases someone in the management team, notably their private equity NEDs (Table 2), will have had previous experience of a UK AIM IPO.

The surveyed potential IPO managers were all aware that during the mid 2000s many growing TBSFs undertook IPOs. The strong AIM market at that time facilitated fundraising to buyout existing private investors. It also enabled raising further funds for business growth and strategic acquisitions, to broaden technology platforms, manufacture, increase sales and develop overseas markets. These observations support the contention that in buoyant market conditions AIM was able to attract some of the most successful independent TBSFs away from trade sale exits (Revest and Sapio 2012; Bessler and Seim 2012).

Managers planning lifelong business development rather than with serial entrepreneur (9) traits (Table 2), aspired to retain and develop their business in the UK and were more likely to consider an IPO option, even in tough market conditions. They cited emulating Abcam Plc's success; a life science business that listed on AIM in 2005, raising £15m to buyout existing private equity investors and invest in further R&D and market development into the US. The company remains an independent UK, Cambridge based, business with approaching £100m annual sales turnover and 650 staff.

However, since the 2007 GFC, the surveyed potential IPO managers perceive there to be less appetite for TBSF investments on AIM and cite that the number of TBSF IPOs on the UK AIM market have declined rapidly. So whilst they demonstrate awareness of AIM's advantages and in the right market conditions some, notably those with lifelong entrepreneurial aims, would prefer the IPO option, they appear to be deterred from this path. This finding underlines Revest and Sapio's (2012) assertion that many of the best TBSFs prefer to exit private equity through trade sales, the indication being that these decisions are driven by VC preferences. Trade sales are generally preferred, particularly in poorer macro

economic conditions, because they are simpler and currently the perceived amount of work and expense required for a successful IPO is too great for the expected returns. This supports Gompers (1996) suggestion that private equity VCs and their NEDs will only favour IPOs in more buoyant markets. The CEO of a life science business, who may be best described as a '*possible lifelong entrepreneur'* as they would ideally wish to retain a managerial role in a UK based business after IPO or trade sale, summarised this change in preference:

> *During the mid 2000s the ideal model was to seek IPO within 7-10 years, but since the economic meltdown there doesn't appear to be an appetite for IPOs on markets like AIM. The preferred option now is for a trade sale, as this appears more likely to raise the funds that current investors are looking for. This would involve selling most likely to a US business, but it is quite likely that the research arm in England would remain there.*

Only one manager indicated that an IPO was definitely their preferred option in the current economic climate (although this is a qualitative study, NESTA (2010) estimated that one in five private equity companies exit via IPOs). This CEO expressed a desire to commit to the business (a *lifelong entrepreneur*), with a clear strategy to remain UK owned and based. This company will seek IPO funds for acquisition expansion, rather than to buyout existing investors. They have been in consultations with AIM NOMADs and are well aware of the market requirements and the importance of timing, going to IPO in a strong position and avoiding market uncertainties. Whilst this company remains keen on an IPO, the indication is that this will take longer to reach and require more funding rounds than was originally envisaged, following the lengthening private investment horizon trend observed in several recent studies (NESTA 2010; CfEL 2013).

> *We remain very keen to proceed to IPO within the next couple of years, but will not be rushed into this. We are aware that the AIM market has been tainted by poor quality 'pump and dump' companies* (10) *that have not proven to be good investments and are keen that AIM maintains high standards. We feel that our company will stand as a very solid high growth company and should do well, as bio market investments are performing relatively well in the current market*.

The general consensus among those surveyed is that a trade sale is simpler and easier to manage. Managers were appreciative, often based on previous experience, of the requirements for a successful IPO:

> *IPOs can take half a year to prepare, requiring due diligence, developing a prospectus, and intensive work with market brokers, asset managers and financial PR companies to generate interest in the company. After the IPO there are intensive ongoing management requirements to work with market intermediaries in order to sustain interest in the business and maintain and increase the share price.*

The surveyed potential IPO companies want to avoid the risk that their existing private equity investors, who may be locked-in for an initial period after the IPO, do not receive the returns that they are seeking. Conversely, whilst the trade sale market is also difficult and there are signs that it is taking over a year longer to exit than originally planned (CfEL 2013), trade sales are typically a one off event and more likely to raise sufficient funds to meet current investors' expectations. The surveyed managers do not believe that there is currently sufficient investor appetite in the UK AIM market to raise sufficient funds to merit the considerable effort required to undertake an AIM IPO. Notably, only one of these managers knew of a recent TBSF IPO on AIM, stating that this case had experienced fundraising problems with their flotation and was not a role model that they would want to follow.

The CEO of the largest and fastest growing TBSF surveyed, with current sales turnover approaching £60m, indicated that AIM would not merit their attention as AIM's volume of trading was low and it would be too much work to sustain market interest. This owner believed that they would be better waiting until they had larger capital status, in excess of £100m. At that stage they could consider listing on the full LSE market, which has greater liquidity. However, this CEO also expressed a current preference for private equity investors that they knew and could work well with and voiced several critical reasons why public listing might be problematic: '*I don't like the idea of going public with key business development information. Also, my time is better spent on managing the business, not managing investors' expectations***.'**

The overall trend exhibited by potential TBSF IPOs during the post GFC period has been to delay private equity exits by between one and three years and seek further interim rounds of private and corporate equity and joint venture finance, with a preference for trade sale exits unless there is a significant upturn in AIM market liquidity (Table 2). Knowledge and experience of AIM was considerable, notably through influential NEDs, but this could be positive and negative, as the managers had insight into the workload and risks involved in an IPO in adverse market conditions. In such conditions it is the businesses with greater capitalisation and '*lifelong*' IDE (Moretti 2012) rather than serial entrepreneurs who are more likely to consider an IPO, with influential private equity NEDs favouring trade sales due to the overriding poor macro economic conditions depressing AIM (Gompers 1996).

Structural Market Factors affecting AIM Companies

None of the AIM listed businesses indicated any desire to delist, and cost was not an issue. However, concerns were expressed about market short-termism and the future potential for increasing levels of market reporting. Maintaining their AIM listing could be upwards of £150,000 per annum, when NOMAD, annual membership fees (£5,899), intermediary broker, analyst, financial public relations (PR), twice yearly reporting costs involving accountants and auditors, and required NED salaries were all considered. However, there was satisfaction that the markets were operating suitably and that their '*advantages outweigh the burdens*.' Regular reporting was accepted as necessary for '*transparency and investor confidence'* and although expensive, '*the markets still offer good value for money.'* However, the general trend towards increasing levels of reporting will have unwelcome increasing time and cost burdens. One CEO exhibited Aggerwal and Hsu's (2013) '*dark side*' explanation for IPOs limiting innovation by reducing tolerance to failure (Manso 2011). They highlighted concerns that IPO market information requirements (AIM admission requires technical, strategy, market strengths and event timetabling documentation) and subsequent investor updates could assist competitors, particularly if R&D is slower than planned and allows competitors to catch up on their innovation. These businesses would not wish to see main LSE market style

quarterly reporting replacing AIM's current half yearly financial reporting. More regular reporting could increase market short term investment thinking and prove particularly problematic for early stage R&D companies, which would be most susceptible to a volatile short-term oriented market.

Market short-termism

The AIM listed TBSF cases were not adversely affected by market short-termism, although these managers noted that it was a potential problem requiring them to spend time with their analysts and larger institutional investors (e.g. half yearly roadshows with key investors) '*…to ensure that they are on board with the company's plans*.' Longer established, longer listed, businesses have greater stability from a core of longer term investors who have bought into the company strategy and ethos. However, for the younger, more recently listed businesses, there is far more volatility and uncertainty, particularly in relation to intensive R&D based TBSFs. Two CEOs voiced such concerns, underlining the long R&D lead time of life and bio science companies and the need for investors to take a longer term view in order for these businesses to succeed (Rowlands 2009; SQW 2009).

> *There are pressures from investors, because the R&D phase has taken longer than would have been ideal*.

> *Too many investors are too short-termist, especially with respect to Pharma and Biotech companies on AIM, which are often in the development stage, and so have no immediate products to sell. Such investment often requires much longer investment time horizons*.

The role of NOMAD advisors

The Kay Review (2012) found that AIM advisors (NOMADs) have an important role in the operation of AIM, but that their performance was '*patchy*' and could be improved upon. Mason., Jones and Wells (2010) also remark on this key role and suggest that NOMADs

could play a more enhanced hands-on role in supporting businesses. However, this is currently tempered by their neutral position in acting as a reporter to the market (BIS 2013). NOMAD advisors are a requirement of AIM and operate as a key link between the business and institutional investors, often operating as both broker and advisor.

All of the AIM listed managers mentioned: '*It is important to find a NOMAD that understands and promotes the business effectively*", particularly in relation to '*working with analysts that understand the technical aspects of the business*.' All indicated that they had received a reasonable service, recognising that '*you get what you pay for*.' NOMAD costs were upwards of £25,000 per annum, with more expensive advisors and brokers exhibiting better access to the more influential larger institutional investors. They are important gateways to investors, but there is a considerable requirement on the part of the business managers to produce the required due diligence and technical support information. The following CEO comments emphasise these points:

> *We are aware that the quality of advisors is important to managing the company on the exchange. The job done by our advisor has been satisfactory, but not in terms of their broker promotional role. It is really important that our brokers promote the company and recently we added another broker in order to get more exposure and promotion in the market*.

> *We engaged our broker advisors for an initial private offer to the City and raised £4m. At this time it was felt that the brokers did a good job and the markets were very buoyant. They were also excellent as the gatekeeper in getting a good list of investors for the IPO. However, they are sales people - and very good at this - the company itself has to produce all the due diligence, technical and legal work with the help of other external professionals. This is of course very time consuming and expensive. Our advisor-broker fees and commissions have been around £1.25m in recent years.*

Overall, all five current AIM cases present a positive view of their experiences in entering and maintaining a listing. They clearly have issues and concerns around the quality of advisors and associated market services, the potential for increased bureaucracy and reporting requirements and the state of liquidity in the market. However, on balance none would currently consider leaving AIM, although it was tentatively mentioned in a couple of cases that

this could change if more regular quarterly reporting were required, which would involve an increasing time and cost burden and also raise the threat of increased market short-termism. It should also be mentioned that the cost of delisting from AIM can be as expensive as listing. Whilst none of the surveyed AIM managers mentioned this, it could be considered as a barrier. The BIS (2013, p.41) report features an AIM delisting highlighting the volatility of the market, where a struggling company comes into the spotlight and faces increasing scrutiny and reporting, leading to spiralling costs and eventually enforcing a delisting:

> *The business had to delist as it was unable to ride out the storm of failure to meet its rising debts. Once the market caught wind that it was in trouble, the business had to make a number of announcements. Each of the four announcements cost £25k, so within a short period of time it had cost £100k plus just to keep the market informed of the company's attempts to keep afloat. Eventually it became too expensive to remain on the AIM exchange and the board and shareholders agreed that the best course of action would be to delist and sell …. to pay off and transfer debts.*

Structural Market Factors Affecting Potential IPOs

The potential TBSF IPO managers were well aware of the implications of UK stock exchange listing, several having previously undertaken UK AIM IPOs with other companies. Their main perceptions about listing centred on issues of management time input into the process and whether the cost burden justified this activity. There was widespread awareness that the average AIM flotation costs £250,000 and that this in no way accounts for all of the internal business management costs involved in this process (BIS 2013). This coupled with concerns about market short-termism represent the major structural deterrents to undertaking an IPO. It could take six months of management time to initiate an IPO, but in order to sustain and increase share value, it could require a further year of management time, working with advisors, brokers, analysts and financial PR companies to attract institutional investors, establish a strong position in the market and avoid any short term wobbles that could undermine them. There were concerns about balancing business and market management:

'Our analysis of the AIM market is that unless you have a really good initial deal flow, the share price is dictated by external trading and this requires a lot of work with analysts and investors over a sustained length of time – perhaps over a year. Therefore, the outcomes of an IPO are uncertain and market interpretation of business performance can be very different from the reality. Therefore we see that there are inherent risks with the public markets that mean that the timing and management of a flotation has to be just right.

Short-term market responses to relatively young, early stage businesses were also a concern, suggesting that TBSFs should delay undertaking IPOs until they are more established with sufficient market capitalisation to instil investor confidence, or until the markets become more stable:

An early stage business is fragile and open to loss of investor confidence if it doesn't get contracts, or regulatory processes take longer to clear than expected. This leaves them open to short term losses, which are just too much of a risk in the current market.

IPO timing is crucial, particularly in times of macro economic uncertainty. The average level of funds raised by AIM flotations (Table 1), generally supported by the experience of the five post GFC AIM cases, suggests that AIM can successfully provide TBSF growth finance (NESTA 2010). However, the windows of opportunity have to be seized and this may be perceived as a high risk strategy, at least until sufficient notable successes engender stronger market sentiment and liquidity (Ernst and Young 2012).

The private equity cases are already reporting regularly to their investors and do not view AIM's half yearly reporting as onerous. However, the level of public reporting information and potential for this to trigger market short-termism were deemed '*stressful'.* One CEO mentioned that they would prefer to '*operate under the radar'*, rather than reveal their activities to competitors, again supporting the '*dark side*' private equity argument for innovative business growth (Aggerwal and Hsu 2013) .

In terms of the costs and qualities of advisors (AIM NOMADS), there was widespread recognition that these are expensive, but necessary, and that you get what you pay for. One

CEO, who had been in consultation with several NOMADs indicated that their quality could be variable and stressed the importance of sector knowledge:

> *Our discussions with asset management companies have led to some very strong AIM NOMADs coming forward. However, we have come across others who were more like 'City jockeys' with no great sector experience or interest and this wouldn't work for us. We are prepared to pay highly, up to £300,000 per annum, for the best service we can get.*

AIM's current *'light touch'* operating and reporting structure appears generally acceptable to both potential and current listed TBSFs. Key concerns relate to potential increased reporting requirements fuelling short-termism and balancing investor and competitor information. Whilst listed TBSFs believe the market offers value for money and have been able to successfully raise funds, a far greater concern for potential IPOs is the cost and uncertainty of listing, which a demonstrably more buoyant AIM market might overcome.

Synthesising the Key Findings - The Decision Factors Matrix

The paper presents five TBSF business cases where AIM IPOs during and since the GFC have demonstrably proven to be a viable funding option for TBSFs. It also presents evidence from five contrasting TBSF business cases that have reached a stage in their development cycle where they are preparing for private equity exit and are considering the IPO option.

In exploring the underlying motivational context to the pecking order attraction and selection of IPOs for both the existing AIM companies and the potential IPO companies the case study research revealed considerable variation. The degree of attraction was found to depend to greater or lesser degrees upon management motivational aims and strategies to financing business growth, perceptions of AIM's structure and costs, the position of the business in its development cycle and its ability to raise alternative sources of finance within the prevailing macro economic conditions.

(Insert Table 4)

To synthesise the research findings a 'decision factors matrix' is utilised which identifies the cross-relating strands of findings. This seeks to provide clearer understanding, for each case, of the extent to which management resource base factors compared to macro economic conditions affecting the market and the availability of alternative finance, and structural matters relating to the AIM market have influenced the motivation and pecking order decision to list, remain listed, or seek alternative sources of finance.

The recent TBSF IPOs surveyed were motivated primarily for later stage R&D and market development with emphasis on strategic acquisitions to complement their technology platform development, or facilitate market entry or development, notably overseas. This is in-line with the growth financing phases of the finance escalator model (Gill 2010; Mason, Jones and Wells 2010). However, some businesses were in earlier stage R&D phases where alternative debt and equity finance has not been available and AIM has been perceived as a worthwhile risk which has paid off, despite high entry costs. This variation from the finance escalator, where IPOs typically occur towards the end of the R&D cycle, may be seen as a direct consequence of the breakdown in this model (Gill 2010; Mason, Jones and Wells. 2010). It was not evident (Table 5) that the listed businesses would have found suitable alternative finance, particularly for the scale of acquisitions planned, but there was some evidence that AIM's fund raising conditions after 2007 had caused delays to an IPO and further fundraising, highlighting the uncertainties of the market and importance of timing for investments (Ernst and Young 2012).

Whether pulled into the market by the lure of funding at levels far beyond what is available from alternative sources, or pushed into the market by existing investors seeking a return, these 'IDE' managers (Moretti 2012) are united by a strategic management mindset to grow independently, rather than accept a trade sale option. This desire appears strongest amongst '*lifelong'* entrepreneurs with a longer term motivational vision to keep managing a UK owned business. As such, despite the high costs of maintaining a listing, they state that *'the benefits outweigh the costs'* and plan to continue to grow using the AIM market, believing that they can raise further funds on AIM, even in the prevailing tough conditions. They are aware of potential structural issues with AIM, but have been able to manage investors' expectations and have not experienced undue short term market pressures, unanimously indicating that

current reporting requirements are suitable, but suggesting in a minority of cases that increased levels of reporting, alongside increased costs and market short-termism (which was more acutely felt by the longer investment horizon life science companies) could be detrimental and potentially lead to consideration for delisting.

In contrast most (4/5) potential TBSF IPOs surveyed are unlikely to choose an IPO option over a trade sale in the current economic climate (Table 5). Whilst there were structural concerns around market reporting requirements undermining competitiveness and potentially fuelling short term market volatility, the fundamental reason for not undertaking an IPO is financial, relating to poor market conditions. These managers, notably where there are influential VCs and NEDs with previous AIM experience, do not believe AIM is currently liquid enough for IPOs to raise sufficient funds. They view entry costs and management time as prohibitive and perceive too greater risk that they will not meet current private investors' exit valuations after the lock-in period post IPO. A trade sale, which is perceived as a more straight forward one-off event, is therefore currently their preferred safer and more certain option.

However, a key finding is that the *'lifelong'* entrepreneurs exhibited greater willingness to consider an IPO, particularly if AIM becomes more buoyant over the next year or two. They recognise that '*timing is critical'* and that '*the larger the market capitalisation of the business the greater the chances of success*' as this will instil greater investor confidence.

Importantly, this analysis revealed some tensions between the aims of lifelong entrepreneurs and private equity VCs and their NEDs (Table 5, cases I and J). In these two cases VC investors are strongly influenced by current market conditions in seeking US trade sales in order to secure optimum exit value and investment return for the company. Their shorter term goals are in conflict with the CEO's longer term aims to remain as managers of UK-based companies and the pragmatic approach of these CEOs leads to their categorisation as '*potential lifelong'* entrepreneurs. These CEOs suggest that if the IPO market improves they would consider this form of exit and make a stronger case for it with their investors, as it is more suited to their entrepreneurial vision for the growth of the company.

The complete lack of evidence of any push from private equity VCs for IPOs supports Gompers' (1996) grandstanding theory that this option will only be favoured in more buoyant market conditions. Overall, a major outcome of the poor market exit conditions for these TBSFs is a lengthening of their exit timetables incorporating further rounds of private equity, including some corporate, trade (e.g. early stage pharmaceutical investment, Cave 2009) and joint venture finance, but also potentially locking-in of private equity which could otherwise recycle to earlier stage TBSFs (NESTA 2009; Mason, Jones and Wells 2010).

Summary Conclusions and Implications

In conclusion, this small in-depth case study approach has revealed that market conditions, rather than the managerial resource base, are most influential in the pecking order preferences of TBSFs in relation to their perceptions of IPOs. This is manifested by pull factors towards alternative financing sources which appear less risky, but also push factors into undertaking IPOs earlier in the business cycle than expected, due to a lack of alternative financing options. The study found that AIM listed companies do harbour some reservations about AIM's structure, but these are mainly confined to possible future changes. Primarily, more regular reporting requirements could increase cost burdens and fuel market short-termism. However, AIM's current '*light touch*' regulation and relatively low maintenance costs are not major concerns. These companies believe that they can effectively raise funds on AIM and none are currently considering delisting. For prospective TBSF IPOs the primary concern is the poor liquidity performance of the AIM market. Whilst they consider that investor confidence in AIM remains low, the costs of undertaking an IPO appear prohibitive and trade sale options appear to offer more optimal exit value to both the CEOs and their investors.

However, a key finding of the study from a managerial RBV is the distinction between '*serial'* and '*lifelong'* IDE managers and the interplay between them and their VCs and NEDs in the pecking order selection of IPOs. The study clearly shows frictions between the longer term motivations for retained ownership pertaining to lifelong entrepreneurs and the shorter term motivations of private equity investors who are seeking optimum exit value. In this respect lifelong entrepreneurs express a preference for IPOs as a means of maintaining a controlling

management presence in the business in order to achieve their longer term business vision, whilst trade sales currently suit the market driven shorter term aspirations of VCs and private investors (Gompers 1996). This finding builds on the theoretical work of Moretti (2012) and Aulet and Murray (2013) in developing a more nuanced view of IDE managers and also on the VC negotiation strengths literature (Hellman 2006; Cumming 2008). The evidence provided here suggests that only the strongest conviction lifelong entrepreneurs are likely to hold sway over their private investors in selecting an IPO in relatively poor market conditions, whilst improving market conditions would lead to greater private investor and VC support for IPOs (Gompers 1996; Revest and Sapio 2012; Bessler and Seim 2012). This is a potentially important finding, worthy of further research, as it suggests at the very least that with improved market conditions more UK TBSFs could choose AIM IPO exits and remain as UK based high growth companies.

Overall, these findings suggest that AIM has supported the growth and retention of UK TBSFs which may become significant future UK growth businesses. However, until AIM becomes more buoyant and attractive to lower cap TBSFs few are likely to choose an IPO over a trade sale, unless there is no alternative. The consequences of the recent dire TBSF exit market have resulted in locking-in of private equity, access to finance problems down the chain and barriers to business growth. A vibrant AIM could help alleviate this problem, with the majority of listed and potential listing TBSFs, along with key market analysts and reports (Kay 2012; Ernst and Young 2012; BIS 2013) suggesting that greater attraction to investors to provide a more liquid and stable long term investment market is the key.

End Notes

(1) UKSMEF 2012 suggests 3%.

(2) Adopted from Sir George Cox's Small Business Review (2013) and allowance of AIM shares for ISAs.

(3) The selected businesses are not 'matched pairs' and being pre and post IPO are, by necessity, at different stages of development.

(4) Digital Electronic/IT sectors (SIC2003): 3001/2 Office and Computers; 3110 Electrical motors; 3120 Electrical controls; 3210 Electrical components; 3220 TV and Radio; 3320 Measuring devices; 3330 Process controls; 3340 Optical; 3530 Aircraft; 6420 Telecomms; 7210 Hardware consultancy; 7221/2 Publishing software; 7230/40 Data; 7260 Other computing Bio/Life science sectors (SIC2003): 2416/7 Plastics; 2441/2 Pharmaceuticals; 3310 Medical; 7310/20 R&D consultancy.

(5) The recent GFK (2013) report on London's Tech City suggests a recent rapid growth of TBSFs with as many as 1,350 in this part of London alone.

(6) Collectively these studies contained 50 UK TBSFs that had sought equity growth finance since 2007.

(7) During the period 2007-2012 the annual average number of UK TBSF IPOs on AIM has been 15. The range of private equity TBSFs seeking IPO in any given year is reported at between 3% (CfEL 2013) and 20% (Revest and Sapio 2012; NESTA 2010), rising with improved market buoyancy. Taking a median of 11.5% (which is in-line with recent reporting from UK government VC schemes, Baldock 2014), the annual number considering an exit would be 130, but the prevailing poor market conditions in this period suggest that fewer would be actively considering exit, whilst in a more buoyant market this could rise to in excess of 200 per annum.

(8) Either the Chief Executive Officer (CEO) or Financial Director (FD).

(9) Serial entrepreneurs start or develop businesses to a point of sale and then move on to managing other businesses.

(10) Businesses receiving private equity investment and then being placed on the AIM market to realise investor returns, but which do not have longer term value or sustainability.

References

Aggerwal, V.A. and D.H. Hsu. 2013. *Entrepreneurial Exits and Innovation*, March, available at: http://rady.ucsd.edu/docs/seminars/hsu_paper.pdf

AIM. 2013. *AIM Market Fact Sheet*, Monthly Report from the AIM Stock Exchange.

Amini, S., K. Keasey and R. Hudson. 2012. The equity funding of smaller growing companies and regional stock exchanges. *International Small Business Journal*, 30 no.8: 832-849

Atherton, A. 2009. Rational actors, knowledgeable agents: Extending Pecking Order considerations of new venture financing to incorporate founder experience knowledge and networks. *International Small Business Journal* 27 no.4: 470-495

Aulet, B. and F. Murray. 2013. *A tale of two entrepreneurs: understanding differences in the types of entrepreneurship in the economy*, Kauffman Institute Paper May

Baldock R. 2014. The Evolution of the UK Enterprise Capital Funds: A Post GFC Perspective. Paper to the *International Small Business and Entrepreneurship Conference*, Manchester, 5th November

Bayar, O. and T.J. Chemmanur. 2012. What drives the valuation premium in IPOs versus acquisitions? An empirical analysis. *Journal of Corporate Finance* 18: 451-475

Barney, J. 1991. Firm resources and sustained competitive advantage. *Journal of Management,* 17: 99

Barrow, C. 2001 The role of non-executive directors in high tech smes, *Corporate Governance*, 1 No.2: 34–36

Bessler, W. and M. Seim. 2012. The performance of venture-backed IPOs in Europe, *Venture Capital,* 14 no.4: 215-239

Berger, A.N. and G.F. Udell. 1998. The economics of small business finance: The roles of private equity and debt markets in the financial growth cycle, *Journal of Banking & Finance*, Elsevier, 22: 613-673

BIS. 2008. *Innovation Nation*. UK Government White Paper, Department for Business, Innovation and Skills.

BIS. 2010. *Early Assessment of the Impact of BIS Equity Fund Initiatives*, CEEDR Report to the Department for Business, Innovation and Skills, July URN 10/1037

BIS. 2012. *Early Assessment of the UK Innovation Investment Fund*, Report to the Department for Business, Innovation and Skills, May

BIS. 2013. *Investigation into the motivation behind listing decisions of UK companies*, CEEDR Report to the Department for Business, Innovation and Skills (forthcoming)

Bullock, A. and I. Millner. 2003. *Innovation Benchmarking Methodology*. Centre for Business Research Paper, University of Cambridge.

Caballero, R. J. and A. Krishnamurthy. 2008. Collective Risk Management in a Flight-to-quality Episode. *Journal of Finance* 63 no.2: 195–230.

Cave, F. 2009. *Patterns of Equity Investment in UK High Technology Companies*. NESTA Report, September

CfEL. 2013. *Capital for Enterprise Ltd: 2013 Survey of Fund Managers*, May

Cox, G. 2013. *Overcoming Short-termism in British Business: The Key to Sustained Economic Growth*. An independent review commissioned by the Labour Party

Cumming, D. 2008. Contracts and exits in venture capital finance. *Review of Financial Studies* 21 no.5: 1947-1982.

Eisenhardt, K. M. 1989 Building Theories from Case Study Research. Academy of Management Review 14 no.4: 532-550

Ernst & Young. 2012. *Global IPO Trends: Prepare Early and Move Fast*

Filatotchev, I. 2006. Effects of Executive Characteristics and Venture Capital Involvement on Board Composition and Share Ownership in IPO Firms. *British Journal of Management*, 17: 75–92

Fraser, S., S. Bhaumik and M. Wright. 2013 *What do we know about the relationship between entrepreneurial finance and growth?* Enterprise Research Centre (ERC) White Paper No.4, April

GFK. 2013. *Tech City Futures*, Report by GFK consultants, May

Gill, D. 2010. *Collapse of the Funding Escalator*. Presentation to the Institute for Manufacturing, St John's Innovation (24/06/10)

Glaser, B., and A.L. Strauss. 1967. The Discovery of Grounded Theory: Strategies for Qualitative Research. Aldine: Chicago

Gompers, P. 1996. Grandstanding in the Venture Capital Industry, *Journal of Financial Economics* 42: 133-156.

Gompers, P., A. Kovner, J. Lerner, and D. Scharfstein. 2010. Performance persistence in entrepreneurship. *Journal of Financial Economics*, 96:18-34

Harrison, R, G. Don, G.K. Johnston, and M. Greig. 2010. The early-stage risk capital market in Scotland since 2000: issues of scale, characteristics and market efficiency, *Venture Capital*, 12 no. 3: 211-239.

Hellmann, T. 2006. IPOs, acquisitions, and the use of convertible securities in venture capital. *Journal of Financial Economics* 81 no.3: 649-679.

Holmstrom, B. and J. Tirole. 1997. Financial Intermediation, Loanable Funds, and the Real Sector. *Quarterly Journal of Economics* 112: 663–91.

Hsu, D. 2004. What do entrepreneurs pay for venture capital affiliation? *The Journal of Finance*, LIX: *1805-1844.*

Hsu Scott, H.C. 2009. Industry Technological Changes, Venture Capital Incubation, and Post-IPO Firm Innovation and Performance, *Working Paper*, University of Wisconsin Milwaukee.

Johnston, G.K. 2009. *The Risk Capital Market in Scotland*, Scottish Enterprise.

Litvinsev, S. 2009. *At what do venture capitalists AIM?* Duke Law School, published paper, available at SSRN.com/abstract=1105398

Manso, G. 2011 Motivating innovation. *Journal of Finance* 66 no.5: 1823-1860.

Mason, C.M., and J. Kwok. 2010. Investment readiness programmes and access to finance: a critical review of design issues. *Local Economy* 25, no.4: 269-292.

Mason, C.M., L. Jones, and S. Wells. 2010. *The City's Role in Providing for the Public Equity Financing Needs of UK SMEs*, Report to City of London.

Moretti, E. 2012. *The New Geography of Jobs.* New York: Houghton Mifflin Harcourt

Myers S. and N. Majluf. 1984. Corporate financing and investment decisions when firms have information that investors do not. Journal of Financial Economics, Vol.13: 187-221

NESTA. 2009. *The Vital 6%: how high growth innovative businesses generate prosperity and jobs*. Research Report. London: NESTA

NESTA. 2009a. *From funding gaps to thin markets: UK Government support for early-stage venture capital*. Research Report. London: NESTA.

NESTA. 2010. *Venture Capital: Now and After the Dotcom Crash*. Research Report, July

New City Network. 2013. The New Equity: Essay Collection, July

NASDAQ. 2013. Market Report, September

North, D., R. Baldock, and F. Ullah. 2013. The finance escalator and the growth of UK technology-based small firms since the financial crash, *Venture Capital* 15 no.3: 237-260

Posner, E. 2009. *The Origins of Europe's New Stock Markets*, Harvard University Press

Posner, E. 2004. *Copying the NASDAQ stock market in Europe: Supra national politics and the convergence divergence debate*. Working Paper PEIF-16

Poulsen, A.B. and M. Stegemoller. 2008. Moving firms from private to public ownership: Selling out to public firms versus initial public offerings. *Financial Management* 37 no.1: 81-101.

QCA. 2011. *Response to the Kay Review Call for Evidence*, from the Quoted Companies Alliance

Revest, V. and S. Sapio. 2012. Financing technology-based small firms in Europe: what do we know? *Small Business Economics***,** 39 no.1: 179-205

Rowlands, C. 2009. *The Provision of Growth Capital to Small and Medium Sized Enterprises*, Report for Department for Business, Innovation and Skills.

Schmid, F. 2001. Equity financing and the entrepreneurial firm. *Federal Reserve Bank of St. Louis Review* 83: 15-28.

Stiglitz, J.E. and A. Weiss. 1981. Credit rationing in markets with imperfect information, *The American Economic Review*, 71 no. 3: 393-410.

Storey, D.J. 1994. *Understanding the Small Business Sector,* Routledge, London and New York

SQW Consulting. 2009. *The Supply of Equity Finance to SMEs: Revisiting the Equity Gap*. Department for Business, Innovation and Skills, URN 09/1573

Teece, D.J. 2007. Explicating dynamic capabilities: the nature and microfoundations of (sustainable) enterprise performance. *Strategic Management Journal* 28: 1319-1350

Tellegen, N. 1997. *Rural enterprises in Malawi: necessity or opportunity?* ISBN 1-84014-361-4

The Breedon Review. 2012. *Boosting Finance Options For Business*, March, Department for Business, Innovation and Skills

The Kay Review. 2012. *The Kay Review of UK Equity Markets and Long Term Decision Making*, July

Ullah, F., D. North, and R. Baldock. 2011. *The Impact of The Financial Crisis on the Financing and Growth of Technology Based Small Firms in the United Kingdom*, Report to the Institute of Small Business and Entrepreneurship (ISBE), July

Yin, R.K. 2003. *Case Study Research*. London: Sage Publications

Table 1: AIM Listings and Delistings and New Funds Raised, 1995 to 2012

	Companies						IPO Funds Raised (£m)	
Year	UK	Foreign	Total	New	Delists	Change	Total	Average
1995	118	3	121	123	2	121	71.2	0.58
1996	235	17	252	145	14	131	521.3	3.59
1997	286	22	308	107	51	56	341.5	3.19
1998	291	21	312	75	71	4	267.5	3.57
1999	325	22	347	102	67	35	333.7	3.27
2000	493	31	524	277	100	177	1754.1	6.33
2001	587	42	629	177	72	105	593.1	3.35
2002	654	50	704	160	85	75	490.1	3.06
2003	694	60	754	162	112	50	1095.4	6.76
2004	905	116	1021	355	88	267	2775.9	7.82
2005	1179	220	1399	519	141	378	6461.2	12.44
2006	1330	304	1634	462	227	235	9943.8	21.52
2007	1347	347	1694	284	224	60	6581.1	23.17
2008	1233	317	1550	114	258	-144	1107.8	9.71
2009	1052	241	1293	36	293	-257	740.4	20.57
2010	967	228	1195	102	200	-98	1219.4	11.95
2011	918	225	1143	90	142	-52	608.8	6.76
2012	870	226	1096	71	118	-47	707.1	9.96

Source: Adapted from AIM Monthly Report, February 2013
UK/Foreign/Total columns represent net aggregate year end total figures
i.e. after annual Delists are subtracted from New/IPO listings

Table 2: Profile of Surveyed AIM and Potential IPO TBSFs

AIM Listed Description	Trading (years)	Staff	Sales Turnover	Markets/ Exports	Growth Strategy in next two years	Founder / owners share	Board No.	NEDs	Other board posts	Visions for future growth financing	Views on IPOs and further public market fundraising	CEO status
A Digital imaging – for industrial health and science sectors	5	50	£7.2m	85% exports, growth in China and India	Mainly organic, possible strategic acquisitions, little growth	None	4	3	Yes NEDs	Listed to raise profile for M&As, small-scale fundraising recently £850k, AIM market tough.	May raise funds if market improves and acquisition opportunity	n/a
B Microchip scientific instruments – measuring devices for life sciences	11	30	£1m	90%+ exports, developing OEM sales agreements	Rapid OEM sales growth to £10m+ and 50+ staff	5%	6	3	Yes NEDs	Delayed IPO 1 year until market able to raise £6m - partly to buyout investor - raised further £1.5m, may raise further market development funds in next year	IPO moderately successful, tough AIM market	Life
C Software development – for transport sector	9	50	£8.7m	Mainly UK based, <5% exports	Recent rapid growth, now organic with possible acquisitions	4%	5	3	Yes NEDs	IPO successful, no problems raising funds on AIM	May raise further funds on AIM if find suitable acquisitions	Life
D Collaborative software – for the software development sector	7	100	£2.9m	100% exports, mainly to US	Stable sales with increased R&D staff	40%	4	2	Yes	Successful IPO of £15m - only way to raise funds, no prior equity	No plans to raise further funds as self funding growth	Serial
E Life sciences – gene therapy	0 (est. 18 yrs)	30	Not trading, £30m cap	Has US and EU R&D partners	Restructuring, R&D, nearing marketisation	None	5	3	Yes NEDs	IPO raised £10m for R&D, raised £10m in 2012, may raise further funds in 2014	Harder to raise funds on AIM since listed	n/a
Potential IPOs												
F Digital software – complete solutions for green energy sector	2	76	£20m	UK domestic and commercial trade	Sales growth over £100m, employment 100+ and new ownership investment	20%	6	2	PE NEDs	Low cap IPO market illiquid, delay exit with major PE round	Will trade sale to major player in 5 years	Serial

G Life sciences – genetic treatment testing techniques for pharmas	5	100	£9m	90% exports and rising	Exponential sales growth to £30m+, 115+ staff, seeking IPO	40%	12	6	PE NEDs	Willing to extend PE rounds, 1-2 years but will IPO	IPO to retain UK company and enhance growth	Life
H Life sciences joint venture - new injection systems	4	18	£10m	100% export, mainly US and EU pharmas	Doubling of sales to £20m, 30+ staff, market new products	33%	8	2	NEDs	IPO market poor, extend exit 2-3 years with JV and PE funds	Consider IPO, but trade sale to Pharma most likely to get investors guaranteed return	Serial
I Instrument engineering – nanotech measuring devices	8	50	£5m	75% export, increasing, mainly to US	Sales rise to £20m+, 100+ staff, more PE funds for growth	15%	6	2	PE NED	IPO market poor, extend exit 2-3 years with further PE/Corp equity	IPO or TS - TS more likely to US, preferred by investors	Possible Life
J Life sciences – fertility treatments	3	50	£1m	50% exports rising to 80%, mainly in US	Sales rise to £20m+, 75+ staff, US sales office	50%	7	4 +2 Obs	PE NED	IPO market tough, extend 2-3 years with PE round	IPO or TS - most likely US TS, more reliable, easier to manage	Possible Life

Note: Cases have been anonymised to protect businesses' competitiveness and avoid insider information' issues

Abbreviations: PE = private equity; NED = non executive director; Serial = serial entrepreneur; Life = lifelong IDE entrepreneur with the same business; TS = trade sale; Obs = board observers

Table 3: Growth Performance and Forecast for Surveyed AIM and Potential IPO TBSFs

Median	Potential IPO (n=5)	AIM Listed (n=5)
Sales Turnover 2010-11	£2.4m	£3.9m*
Sales Turnover 2011-12	£9m	£6m*
Sales Turnover 2012-13	£20m	£8.7m*
Total Staff 2011	45	30
Total Staff 2012	50	50
Total Staff 2013	100	50
Total Asset Value 2010-11	£10m	£3m
Total Asset Value 2011-12	£12m	£13.8m
Total Asset Value 2012-13	£25m	£15m

Note: *Based on four trading cases
Data based on company year end which may vary by up to 12 months

Table 4: IPO Decision Factors Matrix

		Economic		**Structural**			**Managerial**	
AIM Listed	IPO status/ likelihood	Macro conditions	Alternative Finance	Costs	Short-term	Report	CEO	NED influence
A Digital imaging	Y	N	n/a	N	N	N	n/a*	d/k
C Software development	Y	N	N	N	N	N	Life	N
D Software development	Y	N	N	P	N	N	Serial	N
B Scientific instruments	Y	P - delay	N	P	P	P	Life	YY
E Life sciences	Y	N	N	N	P	P	n/a*	d/k
Potential IPOs								
G Life sciences	IPO very likely	P - delay	Private Equity	N	N	N	Life	N
I Instrument engineering	US Trade Sale	YY - delay	Private Equity	Y	Y	Y	Possible Life	YN
J Life sciences	US Trade Sale	YY - delay	Corporate Equity	P	N	P	Possible Life	YN
F Energy software	Trade Sale	YP	Private Equity	Y	P	P	Serial	N
H Life sciences	Trade Sale	YP	JV/Pharma	Y	Y	P	Serial	YN

Key: Y=yes; P=perhaps; N=no; YY=yes positive; YP=yes perhaps; YN=yes negative
* Interviewed CEO not involved in founding/early stage

Cases listed in order of strength of support and experience with AIM: lightest shade= highly successful IPO; second lightest shade=quite successful IPO; third lightest shade=IPO very likely; fourth lightest shade=IPO more likely if market up-turn; darkest shade=IPO possible, but unlikely even in market up-turn.

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